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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,919	07/30/2003	Kimiyuki Hayasaki	00862.023202.	7528

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EXAMINER

LIANG, LEONARD S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,919

Applicant(s)

HAYASAKI, KIMIYUKI

Examiner

Leonard S. Liang

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 8-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/21/03, 12/06/04, 4/15/05, 9/23/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification and Drawings

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings. Specifically, the applicant is required to match all references in the drawings to the references in the specification.

Election/Restrictions

Applicant's election with traverse of claims 1-7 in the reply filed on 07/25/05 is acknowledged. The traversal is on the ground(s) that "the various species are closely related and would not require separate fields of search. Furthermore, the public at large should not be required to obtain and stuffy separate patent documents in order to have available all of the issued patent claims covering the invention." With respect to the first issue, though the claims may seem closely related at face value, the different species are indeed different from each other and it is these differences that may require divergent areas of search and which, as a result, impose additional burden on the examiner. With regard to the second issue, that is a public policy issue that is not in the realm of the examiner's responsibility to address. A legitimate species election was made as according to the M.P.E.P. and a legitimate election is required.

The requirement is still deemed proper and is therefore made FINAL. Claims 1-7 will hereby be prosecuted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

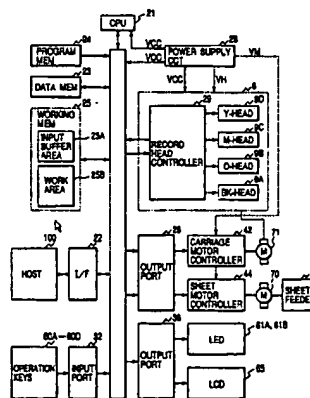
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (US Pat 6522416) in view of Bullock et al (US Pat 5812156).

Matsumoto et al discloses:

- {claim 1} A method of controlling a printing apparatus which performs printing by using a printhead having a printing element and a storage unit, the printing apparatus including a first control unit which controls overall operation of the printing apparatus, and a second control unit which can operate independently of the first control unit (figure 3, reference 21 serves as first control unit; figure 3, reference 29 serves as second control unit; column 3, lines 23-30; column 4, lines 25-35)

FIG. 3

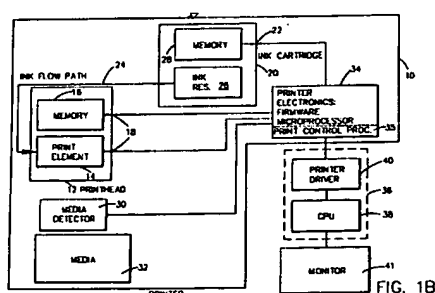


Art Unit: 2853

- {claim 2} wherein the second control unit is arranged in a carriage which supports the printhead (column 4, lines 44-50)
- {claim 3} A printing apparatus which performs printing by using a printhead having a printing element (figure 2-3)
- {claim 6} wherein the acquisition means is arranged on a carriage for conveying the printhead

Matsumoto et al differs from the claimed invention in that it does not disclose:

- {claim 1} an instruction generation step of causing the first control unit to generate an instruction for acquiring specific information from information held by the storage unit of the printhead; an acquisition step of causing the second control unit to receive the instruction caused by the first control unit in the instruction generation step, generate an address for accessing the storage unit of the printhead, access the storage unit at the address, and acquire the specific information corresponding to the instruction; and a control step of causing the second control unit to drive and control the printhead on the basis of information which is generated on the basis of the specific information acquired in the acquisition step in order to drive the printhead



- {claim 3} instruction generation means; acquisition means; control means

- {claim 4} generation means; read means
- {claim 5} the generation means has, in correspondence with a plurality of types of printheads, a plurality of tables which make items of the specific information specified by the instruction and storage addresses of the storage unit correspond to each other, and generates the access signal by looking up a table corresponding to a printhead mounted on the printing apparatus among the plurality of tables
- {claim 7} wherein the acquisition means includes transmission means for transmitting the instruction to the printhead

Bullock et al discloses:

- {claims 1, 3-5, and 7} a memory on the printhead and driving and controlling the printhead on the basis of info in the memory (figure 1B, reference 16; abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Bullock et al into the invention of Matsumoto et al. The motivation for the skilled artisan in doing so is to gain the benefit of being able to drive the printhead based on information specific to the printhead. The combination naturally suggests an instruction generation step, an acquisition step, a control step, an instruction generation means, acquisition means, control means, generation means, read means, wherein the generation means has, in correspondence with a plurality of types of printheads, a plurality of tables which make items of the specific information specified by the instruction and storage addresses of the storage unit correspond to each other, and generates the access signal by looking up a table corresponding to a printhead mounted on the printing apparatus among the plurality of tables; and wherein the acquisition means includes transmission for transmitting the instruction

Art Unit: 2853

to the printhead (In other words, Matsumoto et al discloses a record head controller that is in control communication with the CPU. Matsumoto et al lacks the teaching of memory directly on the printheads. With the teaching of Bullock et al, it is naturally suggested that the recording head controller will control the printheads in accordance with the information in the printhead memories, thus naturally leading to all the communications processes claimed, such as receiving control instructions from the CPU, acquiring information from the printhead memory, and driving the printhead on the basis of this acquired information).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Saruta et al (US Pat 6533383) discloses an ink jet type printing apparatus ink cartridge therefor and method of controlling the printing apparatus.

Tateyama et al (US Pat 5485178) discloses a printer control apparatus for synchronously controlling driving of recording head and transfer of data.

Orii et al (US Pat 5431502) discloses a carriage motor controller for printer.

Barbour et al (US Pat 6476928) discloses a system and method for controlling internal operations of a processor of an inkjet printhead.

Yamane (US Pat 5894315) discloses a printer having carriage drive control arrangement.

Murray et al (US Pat 5610635) discloses a printer ink cartridge with memory storage capacity.

Art Unit: 2853

Anderson et al (US Pat 6116717) discloses a method and apparatus for customized control of a print cartridge.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148.

The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/17/05
MANISH S. SHAH
PRIMARY EXAMINER